

**REMARKS**

In response to the Office Action mailed July 8, 2005, Applicant respectfully requests reconsideration.

Claims 1, 3-17 and 19-21 were previously examined, and are currently pending for examination, of which claims 1 and 17 are independent. No claim amendments are made by this Request.

**1. Request for Telephone Interview**

Applicant notes that the outstanding Office Action represents the eighth substantive examination of this application over a span of almost five years, and that the Examiner has now had several opportunities to search for prior art relevant to the subject matter recited in the currently pending claims. Further, Applicant believes that the following remarks clearly articulate fundamental patentable distinctions between the pending claims and the asserted references.

Accordingly, should the Examiner believe that this Request does not place all of the claims in condition for allowance, Applicant respectfully requests that, in the interest of expediting patent prosecution and avoiding further cost and delay, the Examiner contact Applicant's representatives to schedule a telephone interview before issuing a next Office Action.

**2. Claims 1 and 3-16 Patentably Distinguish Over Yang in view of Gore**

Claim 1 stands rejected under 35 U.S.C. §103(a) as purportedly being unpatentable over U.S. Patent No. 5,706,357 (Yang) in view of U.S. Patent No. 6,370,254 (Gore). Applicant respectfully traverses this rejection.

**2.1. Discussion of Yang**

Yang is directed to a sound signal output circuit and method responsive to the peak levels of sound signals having different modulation degrees for automatically controlling the volume gain. (Col. 1, lines 8-12). As noted in the Office Action (Page 2), Yang does not disclose feedback circuitry for generating a control signal, but rather describes a "feedforward" circuit for generating the control signal.

## 2.2. Discussion of Gore

The discussion of Gore from Applicant's previous response mailed March 14, 2005 is hereby incorporated by reference in its entirety.

Contrary to the assertions of the Office Action (Page 2), the rectifier 102 (shown in Figs. 9 and 11) of Gore does not determine a root mean square (RMS) value of an audio signal and provide an output signal based upon the RMS value. In fact, the rectifier of Gore cannot be used to determine an RMS value. Fig. 11 illustrates the rectifier 102 of Gore in detail. This circuit is a well known basic electronic circuit for a peak detector. To assist the Examiner in understanding the circuit, Applicant has submitted herewith page 217 of "The Art of Electronics", by Paul Horowitz and Winfield Hill, Second Edition (Horowitz). Fig. 4.37 of Horowitz clearly illustrates how a simple peak detector comprises a diode and a capacitor in exactly the same configuration as that shown in Fig. 11 of Gore. The only additional components in Gore are two resistors 109 and 110. The first resistor 109 merely provides a time constant for the charging of the capacitor, so that a peak is not reacted to instantaneously. The second resistor 110 is in parallel with the capacitor and provides a discharge path, so that the peak value detected will be decay over time. This circuit configuration in Gore cannot be used to determine the RMS value of a signal.

As noted in Applicant's previous response, Gore makes no mention of determining an RMS value. The only mention of RMS is in column 5, line 43 of Gore, which has nothing to do with the rectifier 102. Rather, this portion of Gore merely mentions an RMS voltage level resulting from a particular level of noise. There is no teaching of determining an RMS value by rectifier 102 or otherwise.

## 2.3. The Combination of Yang and Gore is Improper

The combination of Yang and Gore is improper because, at the time of the invention, one of ordinary skill in the art would not have been motivated to combine Yang and Gore as asserted in the Office Action.

The Office Action asserts that it would be obvious to substitute the feedback circuitry 100 of Gore in the apparatus of Yang, based on the alleged teaching of Gore that the rectifier 102 of feedback circuitry 100 determines a root mean square (RMS) value of an audio signal. However, as

explained above, Gore does not teach or suggest that the rectifier 102 of feedback circuitry determines a root mean square (RMS) value of an audio signal, but rather teaches a rectifier that cannot be used to determine an RMS value. Thus, the alleged teaching that served as the Office Action's basis of motivation for combining the references is lacking. In fact, Gore does not teach or suggest *determining* an RMS value in any respect. As explained above, the mention of RMS in Gore pertains to an RMS voltage level resulting from a particular level of noise, and has nothing to do with determining an RMS value by the rectifier or otherwise. Thus, as the teaching of a rectifier determining an RMS value is lacking in Gore, one of skill in the art would not have been motivated to modify the apparatus of Yang with the feedback circuitry of Gore for the reasons suggested in the Office Action.

Further, modifying Yang to include the feedback circuitry of Gore would change the principle of operation of Yang. As noted in the Office Action, Yang employs a feedforward technique in generating a control signal for an attenuator, which is a fundamentally different technique than a feedback technique, as one of skill in the art would have readily understood at the time of the invention. Introducing a feedback element into the circuit of Yang would substantially alter the operation of the circuit. Substituting the feedback circuit of Gore for that of Yang would not be a simple swapping of components, but would require a substantial reconstruction and redesign of the circuit of Yang, and a change in the basic principle under which the construction of the circuit of Chang was designed to operate. Accordingly, pursuant to MPEP §2143.01 (The Manual of Patent Examining Procedure, Original Eighth Edition, August 2001, Latest Revision May 2004, page 2100-132), the teachings of Yang and Gore are insufficient to render claim 1 *prima facie* obvious.

In addition, there is no teaching in Gore or Yang as to *how* one of skill in the art could substitute the feedback circuitry of Gore into the apparatus of Yang. As noted above, such substitution would require a substantial reconstruction and redesign of the circuit of Yang, and neither reference teaches how such reconstruction and redesign could be performed.

In view of the foregoing, one of skill in the art would not have been motivated to substitute the feedback circuitry of Gore into the apparatus of Yang as suggested by the Office Action. Accordingly, the Office Action has failed to establish a *prima facie* case of obviousness.

#### 2.4. Claim 1 Patentably Distinguishes Over Combination of Yang and Gore

Even if the combination of Yang and Gore were proper (which it is not), claim 1 patentably over such combination.

Claim 1 recites:

A circuit for processing broadcast signals, comprising:  
first circuitry for receiving a broadcast signal and processing the broadcast signal to extract and output a first audio signal;  
an attenuator for receiving the first audio signal and attenuating the first audio signal based upon a first control signal to generate a second audio signal;  
second circuitry for receiving the second audio signal and one of attenuating and amplifying the second audio signal based upon a second control signal to generate a third audio signal; and  
**feedback circuitry for generating the first control signal based upon the second audio signal, the feedback circuitry including**  
**third circuitry for receiving the second audio signal and determining a Root Mean Square (RMS) value of the second audio signal and providing an output signal based upon the RMS value, and**  
a comparator for receiving the output signal and comparing the output signal with at least one reference signal to generate the first control signal.

Claim 1 patentably distinguishes over the combination of Yang in view of Gore because such combination fails to teach or suggest the circuit for processing broadcast signals recited in claim 1, in particular, the limitation of feedback circuitry for generating the first control signal based upon the second audio signal, the feedback circuitry including third circuitry for receiving the second audio signal and *determining a Root Mean Square (RMS) value of the second audio signal and providing an output signal based upon the RMS value*. As conceded in the Office Action, Yang does not teach this limitation of claim 1. Further as explained in Section 2.2 above, Gore fails to remedy this deficiency of Yang. The rectifier 102 of Gore's feedback circuitry 100 does not determine an RMS value of a audio signal, but rather is incapable of doing so. Thus, even if Yang and Gore were combined, the resulting circuit would not include feedback circuitry for generating a control signal including circuitry for determining a Root Mean Square (RMS) value of an audio signal and providing an output signal based upon the RMS value, as required by claim 1.

## 2.5. Conclusion

In view of the foregoing, claim 1 patentably distinguishes over Yang in view of Gore. Accordingly, Applicant respectfully requests that the rejeciton of claim 1 under §103(a) be withdrawn. Claims 3-16 each depend from claim 1 and are patentable for at least the same reasons. Accordingly, Applicant requests that the rejections of these claims be withdrawn.

## 3. Claims 17 and 19-21 Patentably Distinguish Over Yang in view of Gore

Claim 17 stands rejected under 35 U.S.C. §103(a) as purportedly being unpatentable over Yang in view of Gore. Applicant respectfully traverses this rejection.

For reasons explained above, the combination of Yang and Gore is improper. Further, even if the combination of Yang and Gore were proper (which it is not), claim 17 patentably over such combination.

Claim 17 recites:

A method for processing broadcast signals comprising the steps of:  
receiving a broadcast signal and processing the broadcast signal to extract and output a first audio signal;  
attenuating the first audio signal to generate a second audio signal based upon a first feedback control signal; and  
one of attenuating and amplifying the second audio signal based upon a second control signal to generate a third audio signal;  
wherein the step of attenuating the first audio signal includes  
**determining a Root Mean Square (RMS) value of the second audio signal and providing an output signal that is based upon the RMS value, and**  
comparing the output signal with at least one reference signal to generate the first feedback control signal.

As should be clear from the discussion of Yang and Gore set forth above in Section 2, claim 17 patentably distinguishes over the combination of Yang and Gore because such combination fails to teach or suggest the method for processing broadcast signals recited in claim 1, in particular, the limitation of determining a Root Mean Square (RMS) value of the second audio signal and

providing an output signal that is based upon the RMS value. As conceded in the Office Action (Page 2), Yang does not teach this limitation of claim 17. Further as explained in Section 2.2 above, Gore fails to remedy this deficiency of Yang. Thus, even if Yang and Gore were combined, the resulting circuit would not employ a method of processing broadcast signals comprising determining an RMS value of an audio signal and providing an output signal that is based upon the RMS value, as required by claim 17.

In view of the foregoing, claim 17 patentably distinguishes over Yang in view of Gore. Accordingly, Applicant respectfully requests that the rejection of claim 17 under §103(a) be withdrawn. Claims 19-21 each depend from claim 17 and are patentable for at least the same reasons. Accordingly, Applicant requests that the rejections of these claims be withdrawn.

**CONCLUSION**

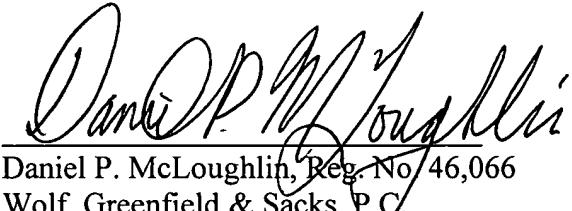
A Notice of Allowance is respectfully requested. The Examiner is requested to call the undersigned at the telephone number listed below if this communication does not place the case in condition for allowance.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Respectfully submitted,

*Pascal Mellott, Applicant*

By:

  
\_\_\_\_\_  
Daniel P. McLoughlin, Reg. No. 46,066  
Wolf, Greenfield & Sacks, P.C.  
600 Atlantic Avenue  
Boston, Massachusetts 02210-2206  
Telephone: (617) 646-8000

Docket No.: S1022.80047US00  
Date: October 11, 2005  
**X(10/8/05)X**